

Claims

1. An ergonomic weight support device for a seat comprising:  
a housing having an engaging channel;  
10 a paddle having a pressure surface end, said pressure surface end being oriented towards a seat occupant, and said paddle having an engaged end, said engaged end being in extendible communication with said channel of said housing;  
15 an actuator that mediates travel of said paddle between a substantially retracted position and an extended position; and  
a pressure plate attached to said pressure surface end of said paddle.
2. An ergonomic weight support for a seat comprising:  
a housing;  
20 an paddle extendably engaged with said housing;  
means for exending said paddle from a retracted position in said housing to an extended position;  
a pressure plate; and  
means for attaching said pressure plate to said paddle.
3. An ergonomic weight support apparatus for a seat comprising:  
a housing having an arcuate channel defined by at least one guide boss;  
35 an extending element having a pressure surface end, said pressure surface end being convex toward a seat occupant and being flexible in response to pressure, said extending element also having an arcuate encapsulated end slidingly disposed within said channel of said housing;  
an actuator anchored to said housing;  
40 a traction element having a first end engaged with said actuator and a second end in tractive communication with said arcuate encapsulated end of said extending element; and  
45 a pressure plate attached to said pressure surface end of said extending element;

whereby said actuator mediates travel of said extending element between a retracted position and an extended, weight supporting position.

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4. The ergonomic support of Claim 3 wherein said traction element is selected from the group consisting of: a wire, a bowden cable, a hard drawn wire, a pin, a rod, a bracket and a spoke.
5. The ergonomic support of Claim 3 wherein said extending element is comprised of plastic.
6. The ergonomic support of Claim 3 wherein said housing is made of plastic.
- 15 7. The ergonomic support of Claim 3 wherein said pressure plate is made of plastic.
8. The ergonomic support of Claim 3 wherein said pressure plate has a medial axis that is attached to said pressure surface end of said extending element.
9. The ergonomic support of Claim 8 wherein said pressure plate has an upper edge and a lower edge, said upper edge and said lower edge being attached to said extending element only through said attachment of said medial axis.
- 20 10. The ergonomic support of Claim 9 wherein said pressure plate tapers from being thicker at said medial axis to being thinner at at least one of said upper edge and said lower edge.
11. The ergonomic support of Claim 8 wherein said medial axis is substantially horizontal.
- 25 12. The ergonomic support of Claim 3 wherein said pressure plate is curvilinear.
13. The ergonomic support of Claim 3 wherein communication between said extending element and said actuator is selected from the group consisting of: a piston, a screw, a rocker, a rack and pinion, a cam, a lever and a cantilever.

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14. The ergonomic support of Claim 3 wherein said actuator is selected from the group consisting of: an hydraulic device, a pneumatic device, a bowden cable, an electric motor and a mechanical device.

15. The ergonomic support of Claim 3 wherein said pressure plate is substantially as wide as said pressure surface end of said extending element.

10 16. The ergonomic support of Claim 3 wherein said pressure plate is substantially greater in height than said pressure surface end of said extending element.

17. The ergonomic support of Claim 3 wherein said pressure plate is flexible.

18. A method of distributing the pressure of a lumbar support comprising:  
Disposing an extendible pressure surface in a housing channel to travel from a retracted position to an extended position;  
Mediating said travel with an actuator; and  
Attaching a pressure plate to said extendible pressure surface.

19. The method of claim 18 wherein said pressure plate is flexible.